



DID YOU KNOW

Paper Grain can have a huge effect on the quality of a print job, particularly in pieces where folding and binding are used. Below are some basic facts about paper grain and general information to keep in mind when selecting paper for a job.

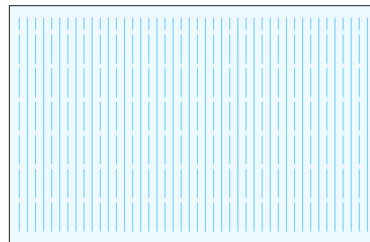
What is Paper Grain?

As paper is being made, the fibers generally align in one direction. Paper comes in both long and short grain. Grain direction is usually indicated on the package by the second number in the dimension.

See examples at right.

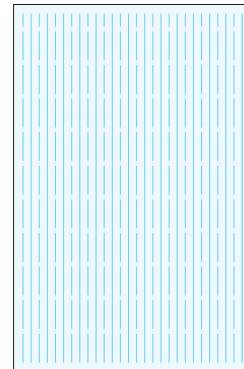
Short Grain refers to paper where the fibers run parallel to the short edge of the paper.

Example
17" x 11", Hammermill® Color Copy Cover



Long Grain refers to paper where the fibers run parallel to the long edge of the paper.

Example
11" x 17", Accent® Opaque Digital



How Does Grain Effect Printing?

Paper grain plays a role in sheet strength, stiffness and dimensional stability, which can effect both the runnability and the finished results of a project.

International Paper offers a wide variety of short and long grain products. For additional information on paper basics visit ippaper.com.

Runnability

In a press, low stiffness can result in paper jams because the sheets may "roll" at transfer points. This is more likely to occur when the grain is perpendicular to the direction of travel. Feeding sheets with the fibers aligned parallel to the direction of travel will minimize the likelihood of jams, but this orientation is more prone to registration issues. Paper fibers tend to expand or contract perpendicular to the grain direction (across the width of the press in this case) when subjected to changes in moisture.

Scoring, Folding & Binding

It is easier to fold, bend or tear paper along the same direction as the fibers. Scoring and folding should always be done parallel to the grain direction. When folding against the grain, the paper can crack and the printed image could be damaged. It is also not advisable to mix long grain and short grain paper in a piece because uneven or stepped edges may result when trimmed.

Binding with the paper grain parallel to the spine will allow a piece to open easily and lay flat. It will also help avoid warping of the spine as the piece expands and contracts with fluctuations in humidity.